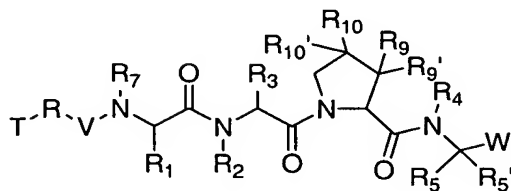


CLAIMS

We claim:

1. A compound of formula I:

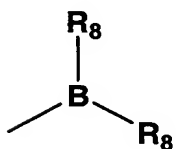
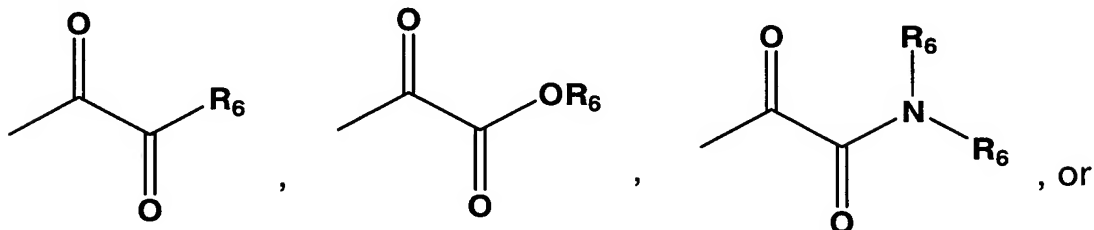


I

or a pharmaceutically acceptable salt, or mixtures thereof,

wherein:

W is:



wherein each R<sub>6</sub> is independently:

hydrogen-,

(C1-C12)-aliphatic-,

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-cycloalkyl- or cycloalkenyl-,

[(C3-C10)-cycloalkyl- or cycloalkenyl]-(C1-C12)-aliphatic-,

(C3-C10)-heterocyclyl-,

(C3-C10)-heterocyclyl-(C1-C12)-aliphatic-,

(C5-C10)-heteroaryl-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-, or  
wherein up to 3 aliphatic carbon atoms in each R<sub>6</sub>  
may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-,  
-O-, -N-, or -N(H)- in a chemically stable  
arrangement;

wherein R<sub>6</sub> may be optionally substituted with up  
to 3 J substituents; or

two R<sub>6</sub> groups, together with the nitrogen atom to  
which they are bound, may optionally form a 5- to 6-  
membered aromatic or a 3- to 7-membered saturated or  
partially unsaturated ring system wherein up to 3  
ring atoms may be optionally replaced with N, NH, O,  
S, SO, and SO<sub>2</sub>, wherein said ring system may be  
optionally fused to a (C6-C10)aryl,  
(C5-C10)heteroaryl, (C3-C10)cycloalkyl, or a  
(C3-C10)heterocyclyl, wherein any ring has up to 3  
substituents selected independently from J;

wherein each R<sub>8</sub> is independently -OR'; or the R<sub>8</sub>  
groups together with the boron atom, may optionally  
form a (C3-C10)-membered heterocyclic ring wherein  
each R<sub>8</sub> is independently -OR'; or the R<sub>8</sub> groups  
together with the boron atom, may optionally form a  
(C3-C10)-membered heterocyclic ring having, in  
addition to the boron, up to 3 ring atoms optionally  
replaced with N, NH, O, S, SO, and SO<sub>2</sub>;

J is halogen, -OR', -NO<sub>2</sub>, -CN, -CF<sub>3</sub>, -OCF<sub>3</sub>, -R', oxo,  
thioxo, =N(R'), =N(OR'), 1,2-methylenedioxy, 1,2-  
ethylenedioxy, -N(R')<sub>2</sub>, -SR', -SOR', -SO<sub>2</sub>R', -SO<sub>2</sub>N(R')<sub>2</sub>,  
-SO<sub>3</sub>R', -C(O)R', -C(O)C(O)R', -C(O)C(O)OR',  
-C(O)C(O)NR', -C(O)CH<sub>2</sub>C(O)R', -C(S)R', -C(S)OR',  
-C(O)OR', -OC(O)R', -C(O)N(R')<sub>2</sub>, -OC(O)N(R')<sub>2</sub>,  
-C(S)N(R')<sub>2</sub>, -(CH<sub>2</sub>)<sub>0-2</sub>NHC(O)R', -N(R')N(R')COR',  
-N(R')N(R')C(O)OR', -N(R')N(R')CON(R')<sub>2</sub>, -N(R')SO<sub>2</sub>R',  
-N(R')SO<sub>2</sub>N(R')<sub>2</sub>, -N(R')C(O)OR', -N(R')C(O)R',

-N(R')C(S)R', -N(R')C(O)N(R')<sub>2</sub>, -N(R')C(S)N(R')<sub>2</sub>,  
-N(COR')COR', -N(OR')R', -C(=NH)N(R')<sub>2</sub>, -C(O)N(OR')R',  
-C(=NOR')R', -OP(O)(OR')<sub>2</sub>, -P(O)(R')<sub>2</sub>, -P(O)(OR')<sub>2</sub>, or  
-P(O)(H)(OR'); wherein;

R' is independently selected from:

hydrogen-,

(C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-,

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-heterocyclyl-,

(C3-C10)-heterocyclyl-(C1-C12)aliphatic-,

(C5-C10)-heteroaryl-, and

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to 5 atoms in R' may be optionally and  
independently substituted with J;

wherein two R' groups bound to the same atom may  
optionally form a 5- to 6-membered aromatic or a 3-  
to 7-membered saturated or partially unsaturated  
ring system wherein up to 3 ring atoms may be  
optionally replaced with a heteroatom independently  
selected from N, NH, O, S, SO, and SO<sub>2</sub>, wherein said  
ring system may be optionally fused to a (C6-  
C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or  
a (C3-C10)heterocyclyl, wherein any ring has up to 3  
substituents selected independently from J;

R<sub>5</sub> and R<sub>5</sub>' are each independently hydrogen or (C1-C12)-  
aliphatic, wherein any hydrogen may be optionally  
replaced with halogen; wherein any terminal carbon atom  
of R<sub>5</sub> may be optionally substituted with sulfhydryl or  
hydroxy; or R<sub>5</sub> is Ph or -CH<sub>2</sub>Ph and R<sub>5</sub>' is H, wherein  
said Ph or -CH<sub>2</sub>Ph group may be optionally substituted

with up to 3 substituents independently selected from J; or

R<sub>5</sub> and R<sub>5</sub> together with the atom to which they are bound may optionally form a 3- to 6-membered saturated or partially unsaturated ring system wherein up to 2 ring atoms may be optionally replaced with N, NH, O, SO, or SO<sub>2</sub>; wherein said ring system has up to 2 substituents selected independently from J;

R<sub>2</sub>, R<sub>4</sub>, and R<sub>7</sub> are each independently:

hydrogen-,

(C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl-(C1-C12)-aliphatic-, or

(C6-C10)-aryl-(C1-C12)-aliphatic-;

wherein up to two aliphatic carbon atoms in each of R<sub>2</sub>, R<sub>4</sub>, and R<sub>7</sub> may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)- in a chemically stable arrangement;

wherein each of R<sub>2</sub>, R<sub>4</sub>, and R<sub>7</sub> may be independently and optionally substituted with up to 3 substituents independently selected from J;

R<sub>1</sub> and R<sub>3</sub> are each independently:

(C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

[(C3-C10)-cycloalkyl- or -cycloalkenyl]-(C1-C12)-aliphatic-,

(C6-C10)-aryl-(C1-C12)aliphatic-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to 3 aliphatic carbon atoms in each of R<sub>1</sub> and R<sub>3</sub> may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)- in a chemically stable arrangement;

wherein each of R<sub>1</sub> and R<sub>3</sub> may be independently and optionally substituted with up to 3 substituents independently selected from J;

R<sub>9</sub>, R<sub>9'</sub>, R<sub>10</sub>, and R<sub>10'</sub> are each independently -X-Y-Z;

X is a bond, -C(H)(R<sub>6</sub>)-, -O-, -S-, or -N(R<sub>11</sub>)-;

R<sub>11</sub> is:

hydrogen-,  
(C1-C12)-aliphatic-,  
(C6-C10)-aryl-,  
(C6-C10)-aryl-(C1-C12)aliphatic-,  
(C3-C10)-cycloalkyl- or cycloalkenyl-,  
[(C3-C10)-cycloalkyl- or cycloalkenyl]-(C1-C12)-  
aliphatic-,  
(C3-C10)-heterocyclyl-,  
(C3-C10)-heterocyclyl-(C1-C12)-aliphatic-,  
(C5-C10)-heteroaryl-, or  
(C5-C10)-heteroaryl-(C1-C12)-aliphatic-,

wherein up to 3 aliphatic carbon atoms in each R<sub>11</sub>  
may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-,  
-O-, -N-, or -N(H)- in a chemically stable  
arrangement;

wherein R<sub>11</sub> may be optionally substituted with up  
to 3 J substituents; or

wherein R<sub>11</sub> and Z together with the atoms to which  
they are bound, optionally form a nitrogen  
containing 5-7-membered mono- or 6-11-membered  
bicyclic ring system optionally substituted with up  
to 3 J substituents, wherein up to 3 ring atoms in  
said ring system may be optionally replaced with O,  
NH, S, SO, or SO<sub>2</sub> in a chemically stable arrangement;

Y is a bond, -CH<sub>2</sub>-, -C(O)-, -C(O)C(O)-, -S(O)-, S(O)<sub>2</sub>-, or  
-S(O)(NR<sub>12</sub>)-;

R<sub>12</sub> is:

hydrogen-,  
(C1-C12)-aliphatic-,  
(C6-C10)-aryl-,  
(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-cycloalkyl- or cycloalkenyl-,  
[(C3-C10)-cycloalkyl- or cycloalkenyl]-(C1-C12)-  
aliphatic-,

(C3-C10)-heterocyclyl-,  
(C3-C10)-heterocyclyl-(C1-C12)-aliphatic-,  
(C5-C10)-heteroaryl-, or  
(C5-C10)-heteroaryl-(C1-C12)-aliphatic-,

wherein up to 3 aliphatic carbon atoms in each R<sub>12</sub>  
may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-,  
-O-, -N-, or -N(H)-, in a chemically stable  
arrangement;

wherein R<sub>12</sub> may be optionally substituted with up  
to 3 J substituents;

Z is:

hydrogen-,  
(C1-C12)-aliphatic-,  
(C3-C10)-cycloalkyl- or -cycloalkenyl-,  
[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-,  
(C6-C10)-aryl-,  
(C6-C10)-aryl-(C1-C12)aliphatic-,  
(C3-C10)-heterocyclyl-,  
(C3-C10)-heterocyclyl-(C1-C12)aliphatic-,  
(C5-C10)-heteroaryl-, or  
(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to three aliphatic carbon atoms in Z may  
be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-,  
-N-, or -N(H)-, in a chemically stable arrangement;

wherein any ring may be optionally fused to a  
(C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl,  
or (C3-C10)heterocyclyl;

wherein Z may be independently and optionally  
substituted with up to 3 substituents independently  
selected from J;

V is -C(O)-, -S(O)-, or -S(O)<sub>2</sub>-;

R is -C(O)-, -S(O)-, -S(O)<sub>2</sub>-, -N(R<sub>12</sub>)-, -O-, or a bond;

T is:

(C1-C12)-aliphatic-;  
(C6-C10)-aryl-,  
(C6-C10)-aryl-(C1-C12)aliphatic-,  
(C3-C10)-cycloalkyl or -cycloalkenyl-,  
[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-,  
(C3-C10)-heterocyclyl-,  
(C3-C10)-heterocyclyl-(C1-C12)-aliphatic-,  
(C5-C10)-heteroaryl-, or  
(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to 3 aliphatic carbon atoms in T may be replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement;

wherein each T may be optionally substituted with up to 3 J substituents; or

T is selected from -N(R<sub>6</sub>)(R<sub>6</sub>); and

R<sub>6</sub> is

hydrogen-,  
(C1-C12)-aliphatic-,  
(C6-C10)-aryl-,  
(C6-C10)-aryl-(C1-C12)aliphatic-,  
(C3-C10)-cycloalkyl- or cycloalkenyl-,  
[(C3-C10)-cycloalkyl- or cycloalkenyl]-(C1-C12)-  
aliphatic-,  
(C3-C10)-heterocyclyl-,  
(C3-C10)-heterocyclyl-(C1-C12)-aliphatic-,  
(C5-C10)-heteroaryl-, or  
(C5-C10)-heteroaryl-(C1-C12)-aliphatic-, or

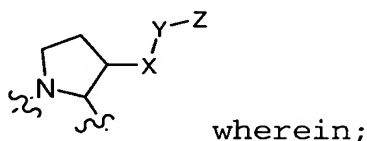
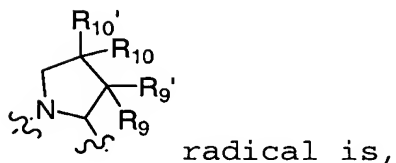
wherein up to 3 aliphatic carbon atoms in each R<sub>6</sub> may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-,

-O-, -N-, or -N(H)- in a chemically stable arrangement;

wherein  $R_6$  may be optionally substituted with up to 3 J substituents; or

$R_6$  and  $R_6'$ , together with the nitrogen atom to which they are bound, may optionally form a (C3-C10)-heterocyclic ring system wherein said ring system may be optionally substituted with up to 3 substituents independently selected from J.

2. The compound according to claim 1, wherein the



in  $R_9$ ,  $R_{10}$ , and  $R_{10}'$ , X and Y are both a bond and Z is hydrogen; and in  $R_9$ ;

X is a bond;

Y is a bond,  $-CH_2-$ , or  $-C(O)-$ ; and

Z is (C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-aliphatic-,

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-heterocyclyl-,

(C3-C10)-heterocyclyl-(C1-C12)aliphatic-,

(C5-C10)-heteroaryl-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;



wherein up to three aliphatic carbon atoms in Z may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement;

wherein any ring may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or (C3-C10)heterocyclyl;

wherein Z may be independently and optionally substituted with up to 3 substituents independently selected from J.

3. The compound according to claim 2, wherein in R<sub>9</sub>;

X is a bond;

Y is a bond; and

Z is (C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-aliphatic-,

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C5-C10)-heteroaryl-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to three aliphatic carbon atoms in Z may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement;

wherein any ring may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or (C3-C10)heterocyclyl;

wherein Z may be independently and optionally substituted with up to 3 substituents independently selected from J.

4. The compound according to claim 3, wherein in R<sub>9</sub>;

X is a bond;

Y is a bond; and

Z is (C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

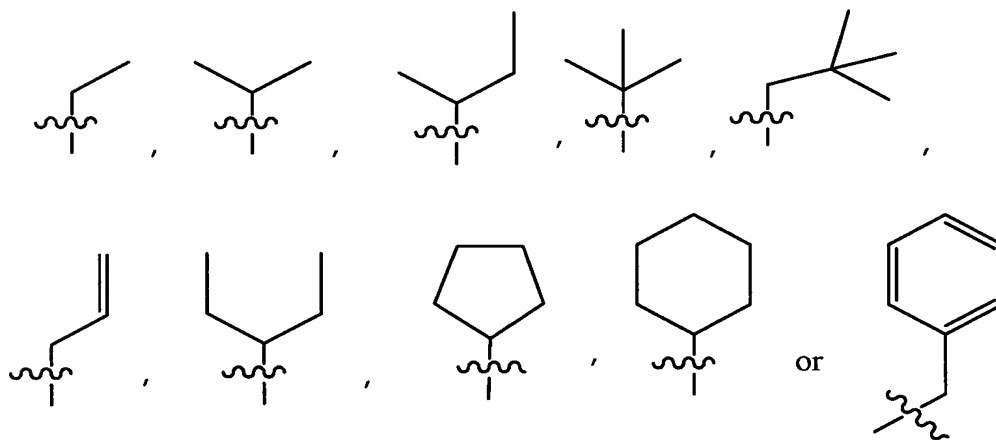
[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-, or

(C6-C10)-aryl-(C1-C12)aliphatic-,

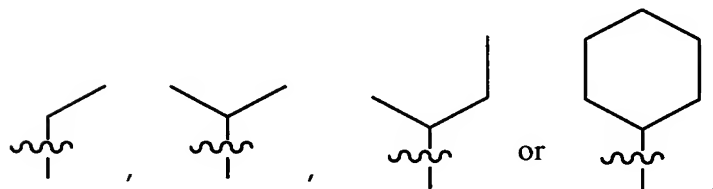
wherein up to three aliphatic carbon atoms in Z may  
be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-,  
-N-, or -N(H)-, in a chemically stable arrangement;

wherein Z may be independently and optionally  
substituted with up to 3 substituents independently  
selected from J.

5. The compound according to claim 4, wherein R<sub>9</sub> is



6. The compound according to claim 5, wherein R<sub>9</sub> is



7. The compound according to claim 6, wherein R<sub>9</sub> is  
ethyl.

8. The compound according to claim 1, wherein in  $R_9$ ,  $R_{10}$ , and  $R_{10'}$ , X and Y are both a bond and Z is hydrogen; and in  $R_9$ ;

X is a bond;

Y is  $-C(O)-$ ; and

Z is (C1-C12)-aliphatic-, or

(C3-C10)-heterocyclyl-(C1-C12)aliphatic-;

wherein up to three aliphatic carbon atoms in Z may be optionally replaced with S,  $-S(O)-$ ,  $-S(O)_2-$ ,  $-O-$ ,  $-N-$ , or  $-N(H)-$ , in a chemically stable arrangement;

wherein any ring may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or (C3-C10)heterocyclyl;

wherein Z may be independently and optionally substituted with up to 3 substituents independently selected from J.

9. The compound according to claim 8, wherein Z is  $-O-(C1-C6)$ -aliphatic or  $-N(R')_2$ , wherein the two  $R'$  groups bound to the nitrogen atom may optionally form a 3- to 7-membered saturated or partially unsaturated ring system wherein up to 3 ring atoms may be optionally replaced with a heteroatom independently selected from N, NH, O, S, SO, and  $SO_2$ , wherein said ring system may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or a (C3-C10)heterocyclyl, wherein any ring has up to 3 substituents selected independently from J.

10. The compound according to claim 8, wherein Z is  $-N(R')_2$ , wherein the two  $R'$  groups bound to the nitrogen atom may optionally form a 3- to 7-membered saturated or partially unsaturated ring system wherein up to 3 ring atoms may be optionally replaced with a heteroatom

independently selected from N, NH, O, S, SO, and SO<sub>2</sub>, wherein said ring system may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or a (C3-C10)heterocyclyl, wherein any ring has up to 3 substituents selected independently from J.

11. The compound according to claim 1, wherein in R<sub>9</sub>, and R<sub>10</sub>, X and Y are a bond and Z is hydrogen; and in each of R<sub>9</sub>, and R<sub>10</sub>, independently;

X is a bond;

Y is a bond; and

Z is (C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-,

[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-aliphatic-,

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-heterocyclyl-,

(C3-C10)-heterocyclyl-(C1-C12)aliphatic-,

(C5-C10)-heteroaryl-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to three aliphatic carbon atoms in Z may be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement;

wherein any ring may be optionally fused to a (C6-C10)aryl, (C5-C10)heteroaryl, (C3-C10)cycloalkyl, or (C3-C10)heterocyclyl;

wherein Z may be independently and optionally substituted with up to 3 substituents independently selected from J.

12. The compound according to claim 11, wherein Z, in each of R<sub>9</sub>, and R<sub>10</sub>, independently, is

(C1-C12)-aliphatic-,

(C3-C10)-cycloalkyl- or -cycloalkenyl-, or  
[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-;

wherein up to three aliphatic carbon atoms in Z may  
be optionally replaced with S, -S(O)-, -S(O)<sub>2</sub>-, -O-,  
-N-, or -N(H)-, in a chemically stable arrangement;

wherein Z may be independently and optionally  
substituted with up to 3 substituents independently  
selected from J.

13. The compound according to claim 12, wherein Z,  
in each of R<sub>9</sub>' and R<sub>10</sub>', independently, is (C1-C6)-  
aliphatic-.

14. The compound according to claim 1, wherein in  
R<sub>10</sub>, and R<sub>10</sub>', X and Y are a bond and Z is hydrogen; and in  
each of R<sub>9</sub> and R<sub>9</sub>';

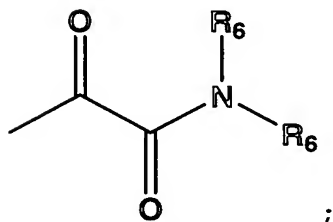
X is a bond,

Y is a bond, and

Z is (C1-C6)-aliphatic-,

wherein Z may be independently and optionally  
substituted with up to 3 substituents independently  
selected from J.

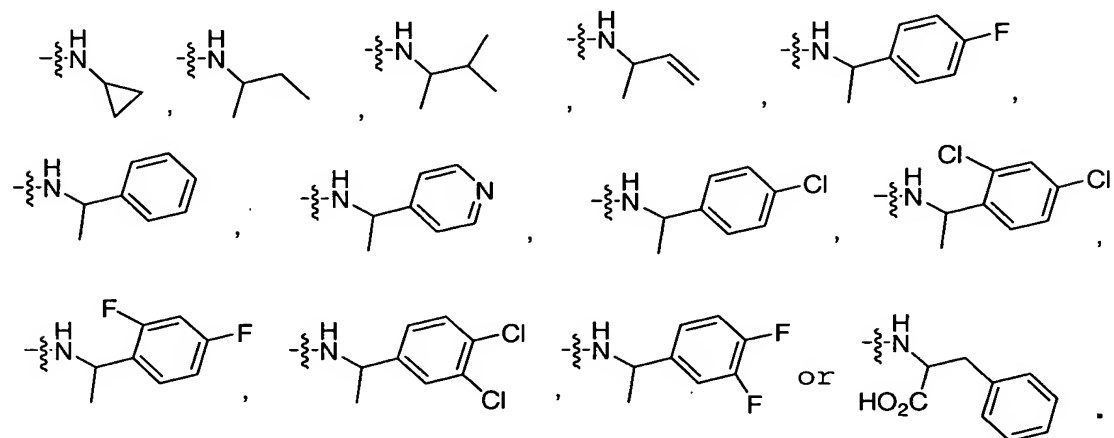
15. The compound according to any one of claims 1-  
14, wherein W is:



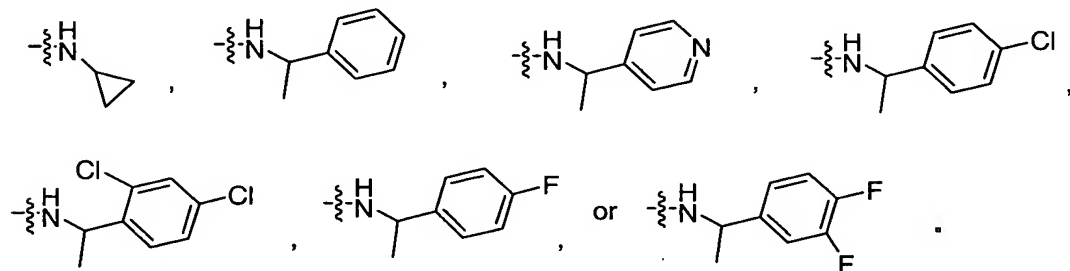
wherein in the W, the NR<sub>6</sub>R<sub>6</sub> is selected from -NH-(C1-C6  
aliphatic), -NH-(C3-C6 cycloalkyl), -NH-CH(CH<sub>3</sub>)-aryl, or  
-NH-CH(CH<sub>3</sub>)-heteroaryl, wherein said aryl or said

heteroaryl is optionally substituted with up to 3 halogens.

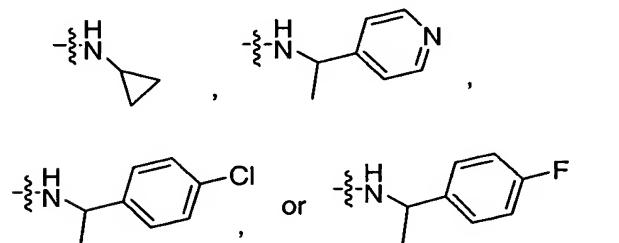
16. The compound according to claim 15, wherein in the W, the  $\text{NR}_6\text{R}_6$  is:



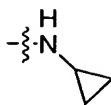
17. The compound according to claim 16, wherein in the W, the  $\text{NR}_6\text{R}_6$  is:



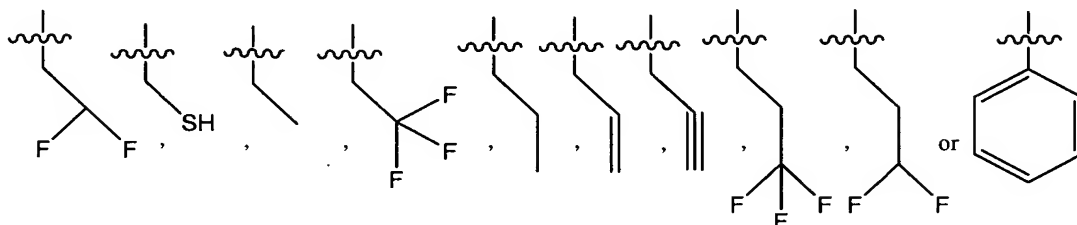
18. The compound according to claim 17, wherein in the W, the  $\text{NR}_6\text{R}_6$  is:



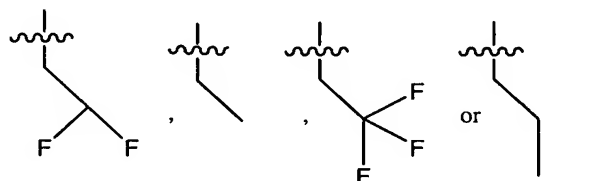
19. The compound according to claim 18, wherein in the W, the  $\text{NR}_6\text{R}_6$  is:



20. The compound according to any one of claims 1-19, wherein  $R_5$  is hydrogen and  $R_5$  is:



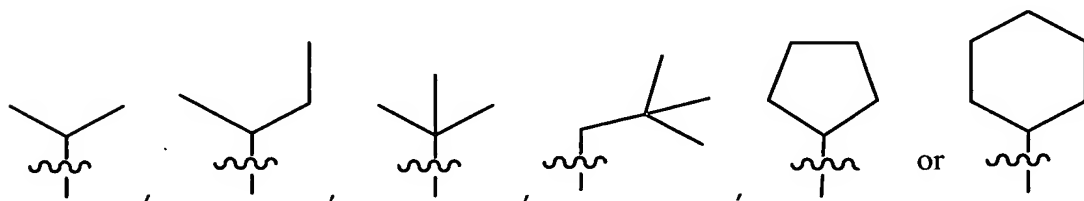
21. The compound according to claim 20, wherein  $R_5$  is hydrogen and  $R_5$  is:



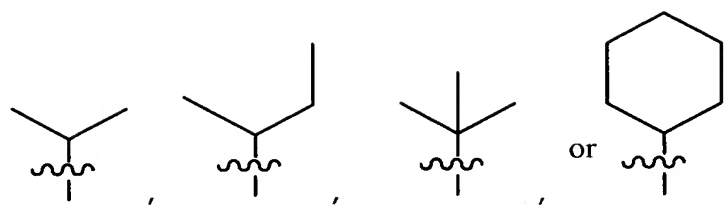
22. The compound according to any one of claims 1-21, wherein  $R_2$ ,  $R_4$ , and  $R_7$  are each independently H, methyl, ethyl, or propyl.

23. The compound according to claim 22, wherein  $R_2$ ,  $R_4$ , and  $R_7$  are each hydrogen.

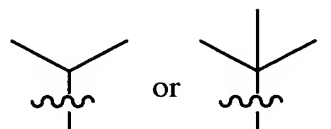
24. The compound according to any one of claims 1-33, wherein  $R_3$  is:



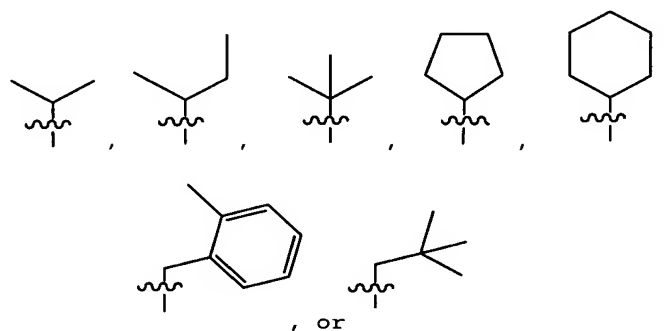
25. The compound according to claim 24, wherein  $R_3$  is:



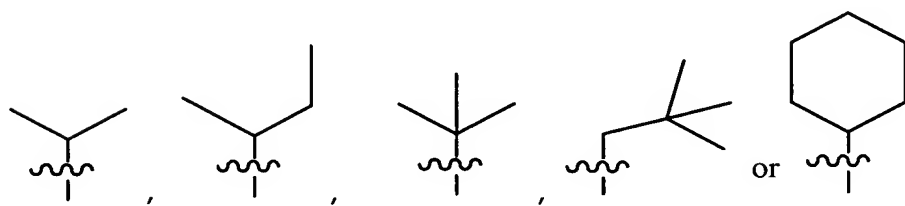
26. The compound according to claim 25, wherein R<sub>3</sub> is:



27. The compound according to any one of claims 1-26, wherein R<sub>1</sub> is:



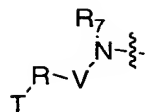
28. The compound according to claim 27, wherein R<sub>1</sub> is:



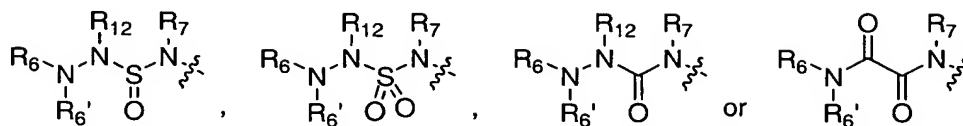
29. The compound according to claim 18, wherein R<sub>1</sub> is isopropyl or cyclohexyl.

30. The compound according to claim 1, wherein the





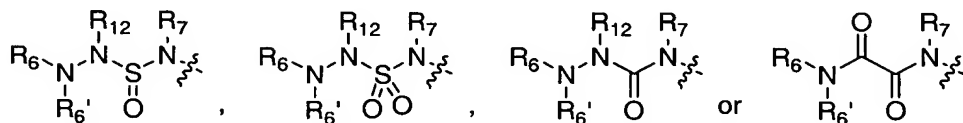
radical is:



wherein:

$R_6$ ,  $R_6'$ ,  $R_7$ , and  $R_{12}$ , are as defined in claim 1.

31. The compound according to claim 30, wherein  
in the



radical;

R<sub>6</sub>, and R<sub>7</sub> are both hydrogen;

$R_6$  is:

(C1-C12)-aliphatic-;

(C6-C10)-aryl-,

(C6-C10)-aryl-(C1-C12)aliphatic-,

(C3-C10)-cycloalkyl or -cycloalkenyl-,

[(C3-C10)-cycloalkyl or -cycloalkenyl]-(C1-C12)-  
aliphatic-,

(C3-C10)-heterocyclyl-,

(C3-C10)-heterocyclcyl-(C1-C12)-aliphatic-,

(C5-C10)-heteroaryl-, or

(C5-C10)-heteroaryl-(C1-C12)-aliphatic-;

wherein up to 3 aliphatic carbon atoms in R<sub>6</sub> may be optionally replaced by S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement; and

wherein  $R_6$  may be optionally substituted with up to 3 substituents independently selected from J;  
and

$R_{12}$  is as defined in claim 1.

32. The compound according to claim 31, wherein;  
 $R_6$  is:

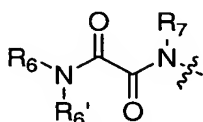
(C1-C12)-aliphatic-;  
(C6-C10)-aryl-(C1-C12)aliphatic-, or  
(C3-C10)-cycloalkyl or -cycloalkenyl-;

wherein up to 3 aliphatic carbon atoms in  $R_6$  may be optionally replaced by S, -S(O)-, -S(O)<sub>2</sub>-, -O-, -N-, or -N(H)-, in a chemically stable arrangement;

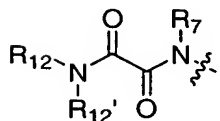
wherein  $R_6$  may be optionally substituted with up to 3 substituents independently selected from J;  
and

$R_{12}$  is as defined in claim 1.

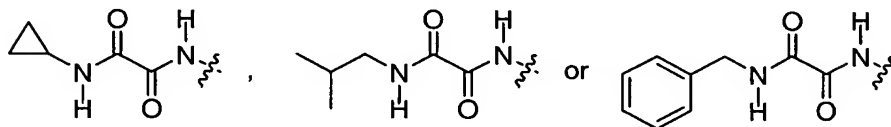
33. The compound according to claim 32, wherein the radical is:



34. The compound according to claim 33, wherein the



radical is:



35. The compound according to any one of claims 1-29, wherein;

V is -C(O)-; and  
R is a bond.

36. The compound according to any one of claims 1-29, wherein;

V is -C(O)-;

R is a bond; and

T is:

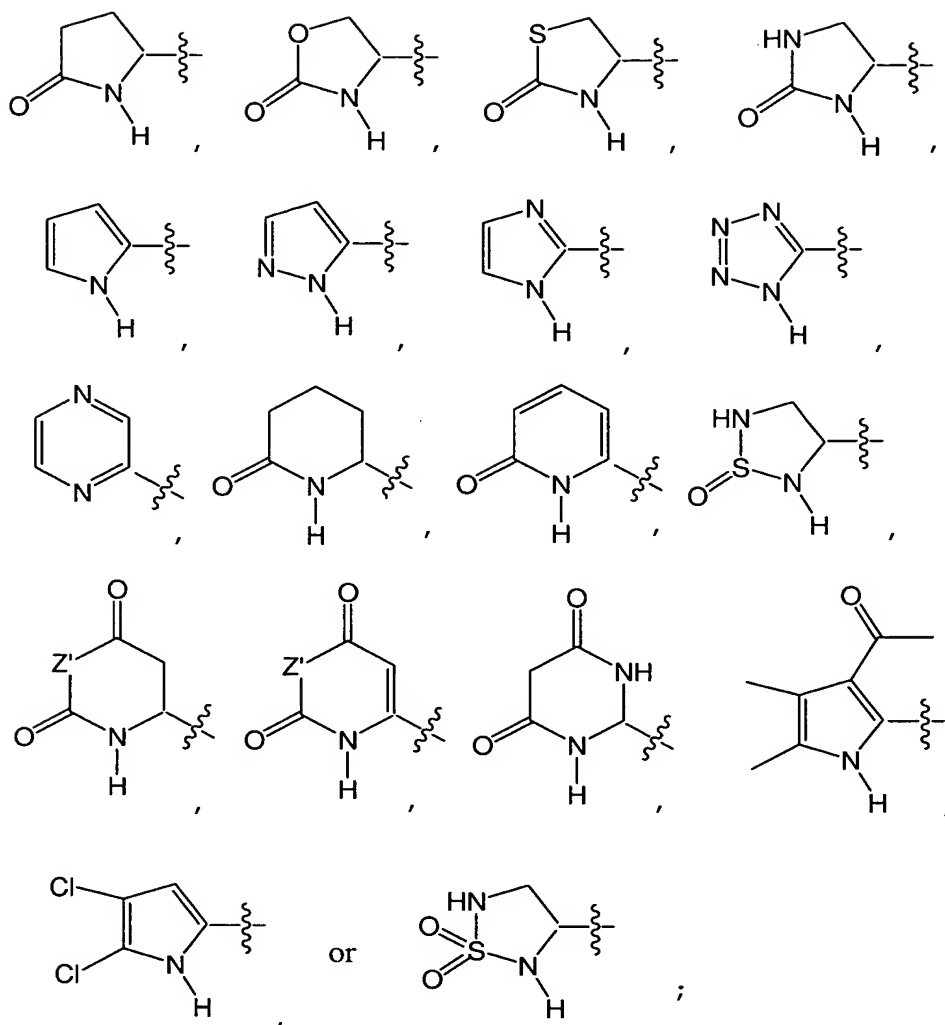
(C3-C10)-heterocyclyl- or (C5-C10)heteroaryl-;

wherein each T is optionally substituted with up to 3 J substituents.

37. The compound according to claim 36, wherein T is (C5-C6)heterocyclyl- or (C5-C6)heteroaryl-;

wherein each T is optionally substituted with up to 3 J substituents.

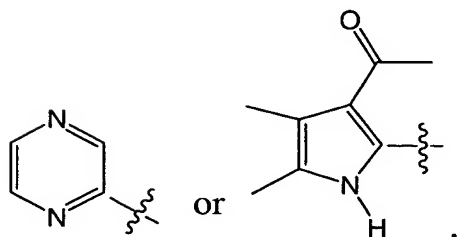
38. The compound according to claim 37, wherein T is:



wherein:

Z' is independently O, S, NR', or C(R')<sub>2</sub>.

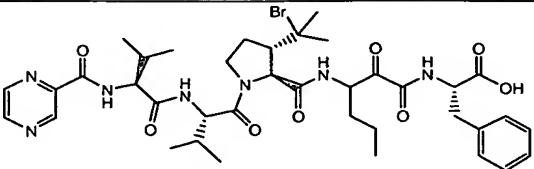
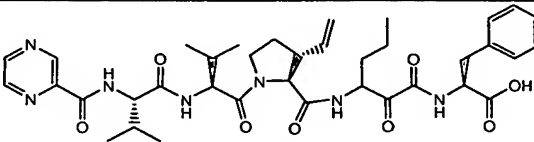
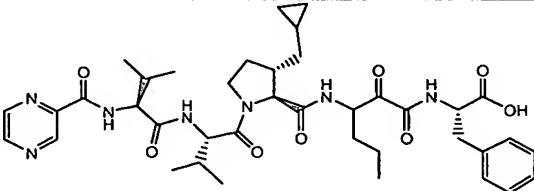
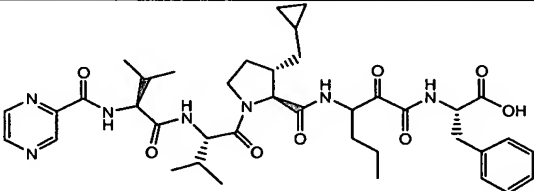
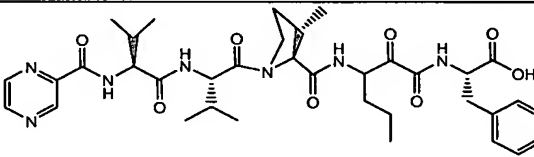
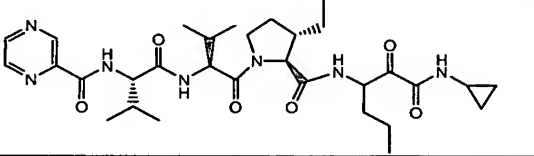
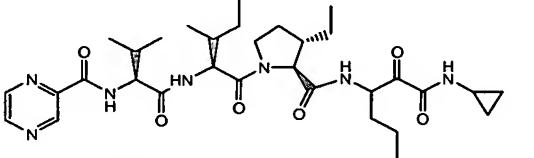
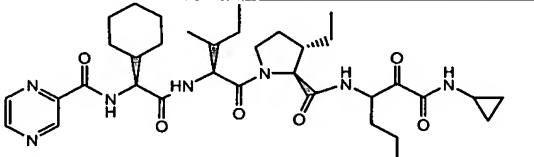
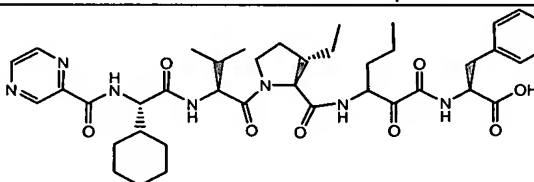
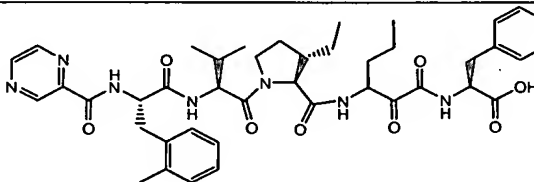
39. The compound according to claim 38, wherein T is:

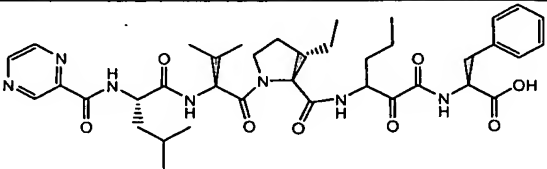
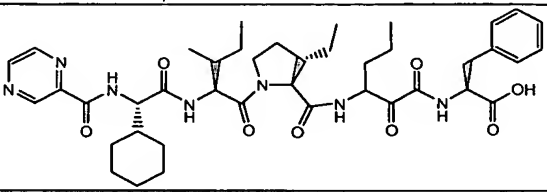
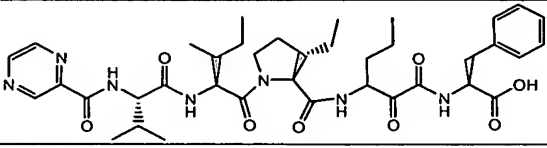
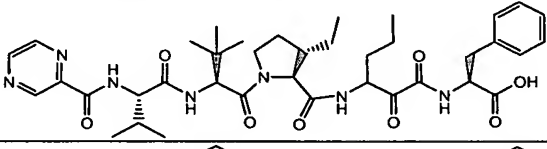
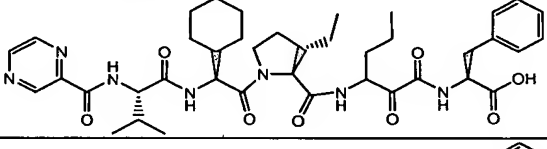
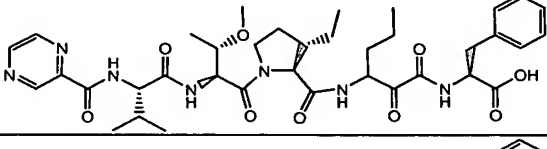
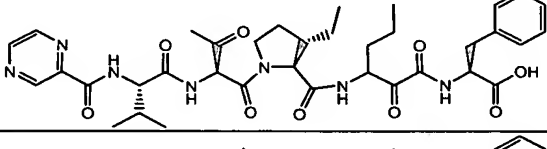
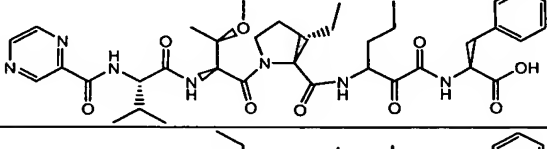
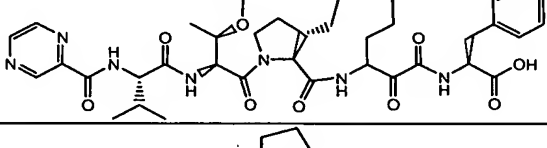
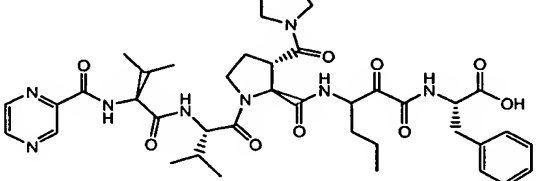


40. The compound according to claim 1, wherein the compound is:

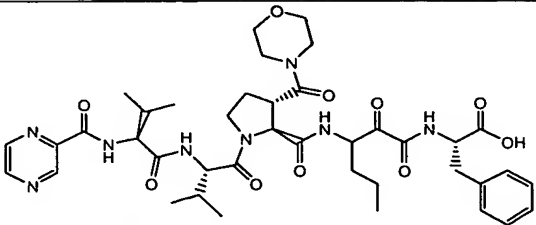
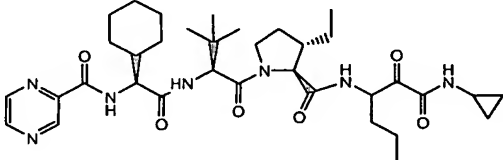
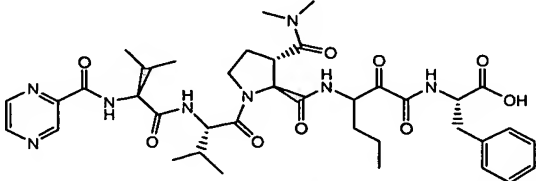
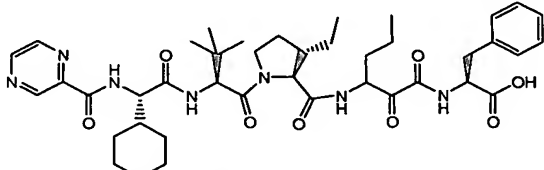
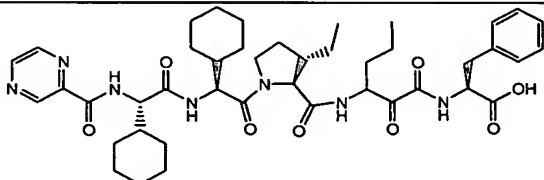
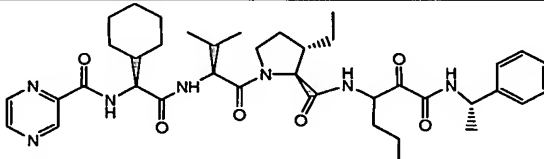
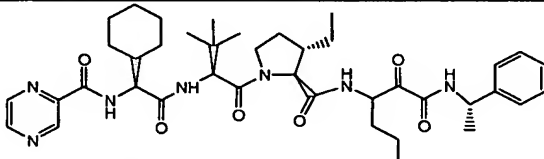
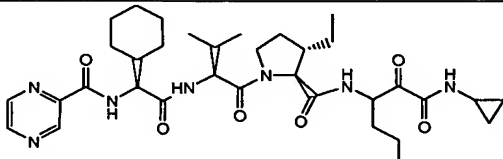
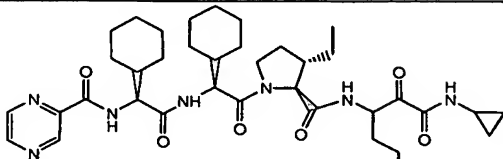
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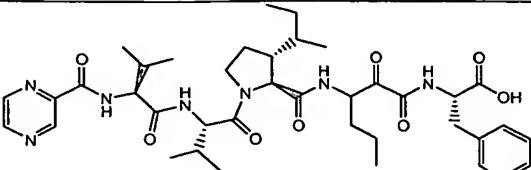
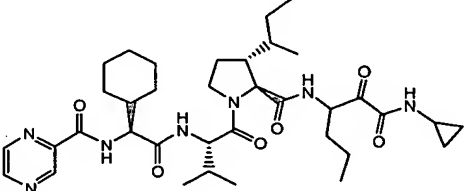
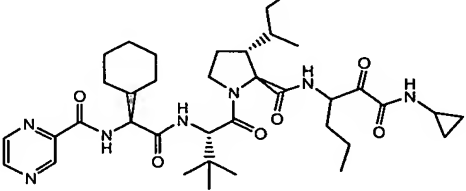
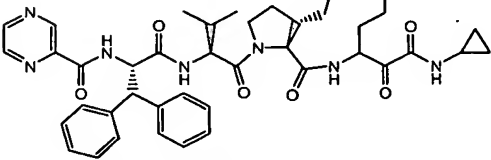
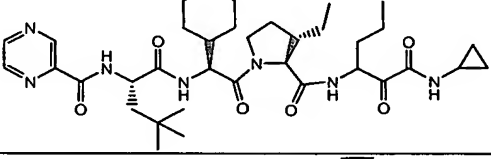
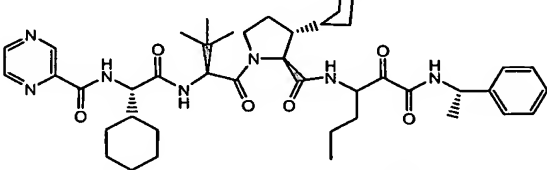
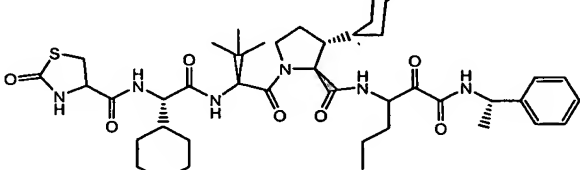
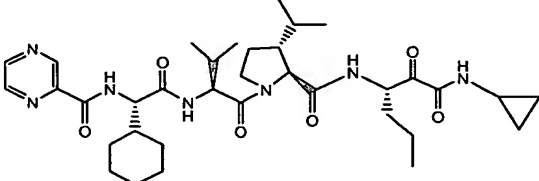
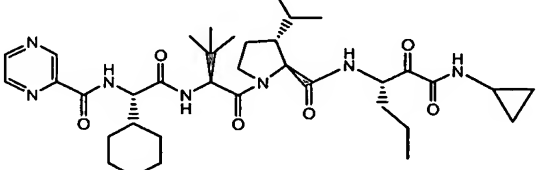
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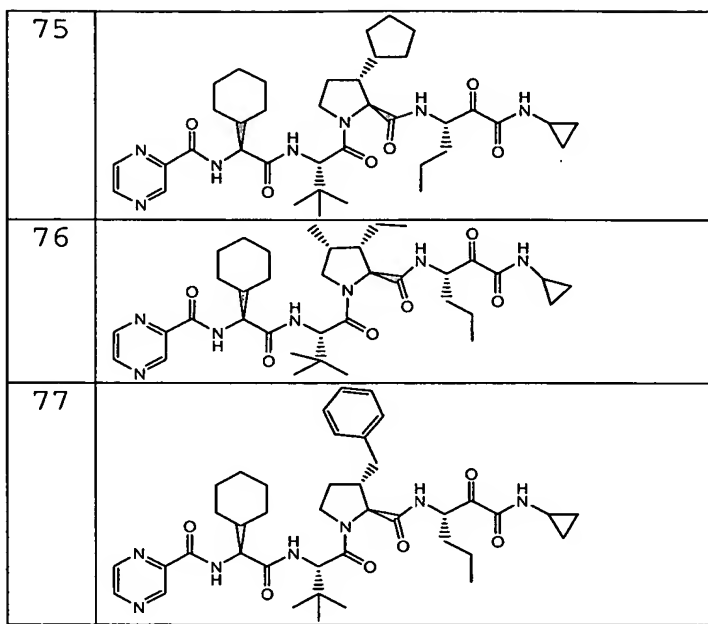


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41. A pharmaceutical composition comprising a compound according to any one of claims 1-40 or a pharmaceutically acceptable salt or mixtures thereof in an amount effective to inhibit a serine protease; and a acceptable carrier, adjuvant or vehicle.

42. The composition according to claim 41, wherein said composition is formulated for administration to a patient.

43. The composition according to claim 42, wherein said composition comprises an additional agent selected from an immunomodulatory agent; an antiviral agent; a second inhibitor of HCV protease; an inhibitor of another target in the HCV life cycle; and a cytochrome P-450 inhibitor; or combinations thereof.

44. The composition according to claim 41, wherein said immunomodulatory agent is  $\alpha$ -,  $\beta$ -, or  $\gamma$ -interferon or thymosin; said antiviral agent is ribavirin, amantadine, or telbivudine; or said inhibitor of another target in

the HCV life cycle is an inhibitor of HCV helicase, polymerase, or metalloprotease.

45. The composition according to claim 43, wherein said cytochrome P-450 inhibitor is ritonavir.

46. A method of inhibiting the activity of a serine protease comprising the step of contacting said serine protease with a compound according to any one of claims 1-40.

47. The method according to claim 46, wherein said serine protease is an HCV NS3 protease.

48. A method of treating an HCV infection in a patient comprising the step of administering to said patient a composition according to claim 42.

49. The method according to claim 48, comprising the additional step of administering to said patient an additional agent selected from an immunomodulatory agent; an antiviral agent; a second inhibitor of HCV protease; an inhibitor of another target in the HCV life cycle; or combinations thereof; wherein said additional agent is administered to said patient as part of said composition according to claim 42 or as a separate dosage form.

50. The method according to claim 49, wherein said immunomodulatory agent is  $\alpha$ -,  $\beta$ -, or  $\gamma$ -interferon or thymosin; said antiviral agent is ribavarin or amantadine; or said inhibitor of another target in the HCV life cycle is an inhibitor of HCV helicase, polymerase, or metalloprotease.

52. A method of eliminating or reducing HCV contamination of a biological sample or medical or laboratory equipment, comprising the step of contacting said biological sample or medical or laboratory equipment with a composition according to claim 41.

53. The method according to claim 52, wherein said sample or equipment is selected from blood, other body fluids, biological tissue, a surgical instrument, a surgical garment, a laboratory instrument, a laboratory garment, a blood or other body fluid collection apparatus; a blood or other body fluid storage material.

54. The method according to claim 53, wherein said body fluid is blood.